

## **SECTION II: REMARKS**

### **A. Summary of Amendments**

Claims 5, 22, 33, and 34 have been amended herewith. Substantive amendments to claims 5, 22, and 33 are supported by the originally-filed specification, for example, at page 4, last paragraph to page 5, first paragraph, which describes recognition means including a stereo vision system that analyzes image data from stereo imaging means, and states that “[f]or all stereo images taken at the same time, features are extracted and matched across different views.” No new matter within the meaning of 35 U.S.C. 132(a) has been introduced by the foregoing amendments.

### **B. Response to Claim Rejections Under 35 U.S.C. 112, First Paragraph**

In the August 18, 2009 Office Action, claims 31 and 35 were rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. Without conceding the propriety of such rejections, claims 31 and 35 have been cancelled herewith; accordingly, the rejections of claims 31 and 35 are moot.

### **C. Response to Claim Rejection Under 35 U.S.C. 112, Second Paragraph**

In the August 18, 2009 Office Action, claim 34 was rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite due to lack of antecedent basis for “adjusting the distance between the camera and the mirrors. In response to such rejection, claim 34 has been amended herewith to depend from claim 33. Based on such amendment, withdrawal of the rejection of claim 34 under 35 U.S.C. 112, second paragraph, is warranted, and is respectfully requested.

### **D. Response to Claim Rejections Under 35 U.S.C. 102**

In the August 18, 2009 Office Action, claims 22 and 32 were rejected under 35 U.S.C. 102(b), as allegedly being anticipated by U.S. Patent No. 4,751,570 to Robinson (“Robinson”). Such rejections are traversed.

The examiner characterized Robinson as disclosing use of a light spot technique that projects a light spot (laser) on to the object being imaged by the stereo camera system, and then by analyzing the stereo video images to detect the light spot, determines the distance to the object<sup>1</sup>.” Applicant agrees that Robinson discloses use of a single laser spot, and detection of the laser spot to determine distance to an object.

Independent claim 22 has been amended herewith to require (inter alia) that “analysis of the stereo image data includes extracting multiple features and matching the multiple features across different views.” Extraction of multiple features and matching of same across different views distinguishes amended claim 22 over the disclosure of Robinson, which discloses use of a single laser spot for distance calculation, and does not teach or suggest extraction of multiple features from images and matching of the multiple features across different views. Robinson therefore fails to disclose all elements of claim 22. Claim 32 depends from claim 22 and inherently incorporates the features of claim 22. Based on the foregoing distinctions between claims 22 and 32 over Robinson, withdrawal of the rejections of claims 22 and 32 under 35 U.S.C. 102(b) is warranted, and is respectfully requested.

#### **E. Response to Claim Rejections Under 35 U.S.C. 103**

In the August 18, 2009 Office Action, claims 3-6, 12, 23-24, 30, 33, 34, and 36-38 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable for obviousness over U.S. Patent No. 5,671,450 to Suzuki (“Suzuki”) in view of U.S. Patent No. 5,532,777 to Zanen (“Zanen”) and Robinson. Such rejections are traversed in application to the claims as amended herewith.

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<sup>1</sup> August 18, 2009 Office Action, page 2.

FIG. 1

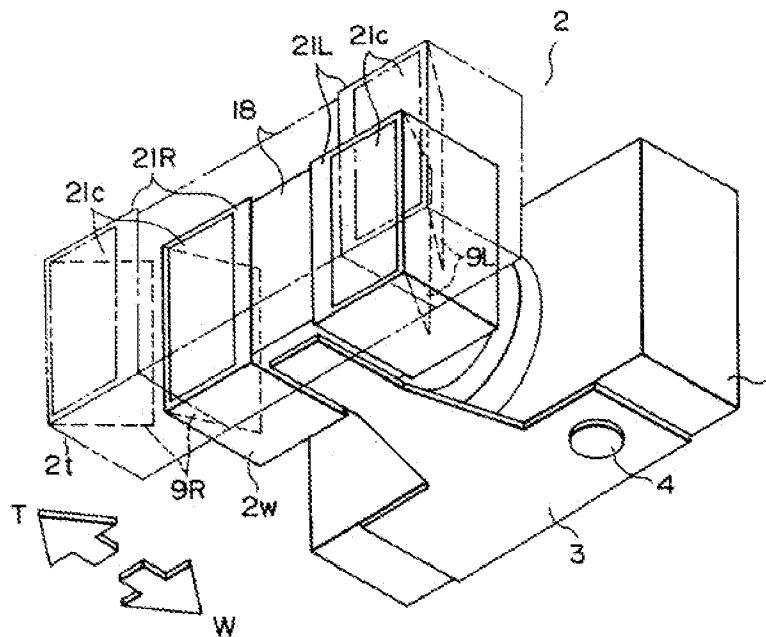


FIG. 1 is a perspective view of a mechanical assembly 2 according to one embodiment. The assembly includes a base 3 with a front plate 10L and 10R, side plates 9L and 9R, and a central plate 8L and 8R. A lever arm 16L and 16R is pivoted at 17L and 17R. A spring 18b is attached to the lever arm. A pin 12 is shown at the bottom right.

“The mirror receivers 10L and 10R have respective pin portions (20L; 20R not shown) which are provided at the lower ends thereof engaged with respective cam slots 15 formed in the bottom plate 18 to thereby determine the angle of pivotal movement. (Although the mirror receiver 10R side is not shown, it is the same mechanism.)

Thus, when the mirror carriages 11L and 11R move in a direction to widen (a direction in which the stereo base becomes longer), the mirror receivers 10L and 10R move in the same direction and the mirrors 9L and 9R rotate in the directions

of movement (the directions of arrows aL and aR in FIG. 3). Thus, when the stereo base S becomes greater, the convergence angle  $\theta$  decreases. “

Suzuki describes the benefit of linked association between the stereo base adjustment and mirror convergence adjustment at col. 7, lines 5-12, as reproduced below.

“[T]he adjustment of the stereo base and the convergence angle is effected by a simple interlocking mechanism, whereby it is not necessary to specially provide communication means between the stereo adapter and the camera, a motor for driving each mirror, etc. Therefore, downsizing and light weight construction can be achieved, and any cost of contacts and the cost of the countermeasure for preventing noise are curtailed.”

Suzuki therefore specifically **teaches away** from providing separate means (e.g., motors) for driving each mirror, and instead teaches that mirror adjustment should be mechanically linked to a mechanism for adjusting stereo base (lateral distance).

In the August 18, 2009 Office Action at pages 6-7 thereof, the examiner conceded that Suzuki failed to disclose (a) recognition means for determining distance or size of an object of interest, or (b) adjustment means including angle adjustment means for adjusting angle of the set of mirrors relative to a centrally located plane.

The examiner pointed to Zanen as disclosing angle adjustment means for adjusting the angle of mirrors relative to a centrally located plane, and opined that it would have been obvious to modify Suzuki to include the use of an angle adjustment means for adjusting the angle of the set of mirrors relative to the centrally located plane in order to correct the field of view of the imaging device<sup>2</sup>. Applicant respectfully disagrees with the examiner's hypothetical combination of Zanen and Suzuki in this regard, since Suzuki specifically **teaches away** from providing “communication means between the stereo adapter and the camera, [and] a motor for driving each mirror” to reduce size, weight, and cost of the adapter. The obviousness rejections premised on the hypothetical combination of Zanen and Suzuki are erroneous for at least the reason that the examiner has failed to consider portions of Suzuki that **teach away** from the

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<sup>2</sup> August 18, 2009 Office Action, page 7.

combination<sup>3</sup>. Given such teaching away, the examiner's rationale supporting the hypothetical combination of references does not embody "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness," as required by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 127 S.Ct 1727, 167 L.Ed.2d 705, 82 USPQ2d 1385, 1396 (2007).

In the August 18, 2009 Office Action, the examiner pointed to Robinson as disclosing use of a light spot technique that projects a light spot (laser) on to the object being imaged by the stereo camera system, and then by analyzing the stereo video images to detect the light spot, determines the distance to the object<sup>4</sup>. The examiner opined that it would have been obvious to modify Suzuki as modified by Zanen to include detection of distance and/or size of a detected object based on the analysis of stereo image data from the camera in order to accurately detect the object distance, and automatically adjust the focus, as suggested by Robinson. Applicant respectfully disagrees with the examiner's hypothetical combination of Robinson with Suzuki, for at least the reason that Suzuki specifically **teaches away** from providing "communication means between the stereo adapter and the camera<sup>5</sup>." It is settled law that teaching away cannot be ignored in the context of an obviousness rejection under 35 U.S.C. 103, as detailed hereinabove. Because Suzuki teaches away from communication means between the stereo adapter and the camera, the examiner's hypothetical modification of Suzuki to include communication of distance and/or size of an object (e.g., according to Robinson) is counter to Suzuki's disclosure. The combination of references does not embody "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness," as required by the Supreme Court in *KSR*, *supra*.

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<sup>3</sup> In considering a reference for its effect on patentability, the reference is required to be considered in its entirety, including portions that teach away from the invention under consideration. Simply stated, the prior art must be considered as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (emphasis added); MPEP § 2141.02. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *Application of Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965); *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve*, 796 F.2d 443, 448 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987).

<sup>4</sup> August 18, 2009 Office Action, page 2.

<sup>5</sup> Suzuki, col. 7, lines 5-12.

But even if the hypothetical combination of Robinson with Suzuki and Zanen were proper (which it is not), such combination would not embody all features of Applicants' independent claims 5 or 33. Each of independent claims 5 and 33 requires (*inter alia*) that analysis of the at least one stereo image or stereo image data "includes extracting multiple features and matching the multiple features across different views." Extraction of multiple features and matching of same across different views is not disclosed by any of the references cited by the examiner, and therefore patentably distinguishes amended independent claims 5 and 33 over the cited art. Robinson discloses use of a single laser spot for distance calculation, and does not teach or suggest extraction of multiple features from images and matching of the multiple features across different views. The remaining references cited by the examiner are less pertinent to the amended features of claims 5 and 33 than Robinson in this regard. The remaining claims 3, 4, 6, 12, 23-24, 30, 34, and 36-38 depend, whether directly or indirectly, from claims 5 or 33. Since dependent claims inherently include all of the features of the claims on which they depend, such claims are patentably distinguished over the art cited by the examiner, such that withdrawal of the rejections of all claims 3-6, 12, 23-24, 30, 33, 34, and 36-38 is warranted, and is respectfully requested.

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**CONCLUSION**

In light of the foregoing, Applicants respectfully submit that all of the now-pending claims are in condition for allowance. Examination of all pending claims and issuance of a notice of allowance are earnestly solicited. Should any issues remain that may be amenable to telephonic resolution, the examiner is invited to telephone the undersigned attorneys to resolve such issues as expeditiously as possible.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

Respectfully submitted,

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